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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,091	07/28/2003	Igor Gurevich		4254

23419 7590 01/12/2007  
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EXAMINER

TRAN, DZUNG D

ART UNIT	PAPER NUMBER
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2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/628,091

Applicant(s)

GUREVICH ET AL.

Examiner

Dzung D. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 18-21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-17 is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 9, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 4-7, 10 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Specification***

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 8, 9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nosu US Patent no. 4,244,045.

Regarding claim 1, Nosu discloses in Figure 12, an optical signal multiplexer/demultiplexer for bidirectional transmission and reception of optical signals through individual channels capable of working in a transmitting and receiving modes simultaneously for transmitting and receiving a plurality of optical signals of different wavelengths through each individual channel, said optical signal multiplexer/demultiplexer comprising:

a plurality of optical prisms 81, 82, 83, 84, 85, 86 arranged in series; and  
an inlet/outlet 100 on one side thereof and a second outlet/inlet 51, 53, 55 on the other side thereof; said optical signal multiplexer/demultiplexer passing one of said optical signals of different wavelengths (i.e.,  $\lambda_1$ ,  $\lambda_3$ ,  $\lambda_5$ ) from said inlet/outlet to said outlet/inlet and from said outlet/inlet to said inlet/outlet without substantially affecting said one of said optical signals, while processing the rest of said optical signals of

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different wavelengths; said coatings comprising means for conjugation and separation of said optical signals of different wavelengths within said optical prisms.

Nosu does not specifically disclose the optical prism 81, 82, 83, 84, 85, 86 having coatings selective with respect to transmission and reflection of said optical signals of different wavelengths. However, he discloses filters 11, 12, 13, 14, 15 and 16 coupled to the optical prisms for selectively with respect to transmission and reflection of said optical signals of different wavelengths. At the time of the invention was made, it would have been known to one of ordinary skill in the art that the filters 11, 12, 13, 14, 15 and 16 perform the same function as the prism coating that is selectively transmit through and reflect the optical signals of different wavelengths.

Regarding claim 2, Kunikane discloses wherein said plurality of optical prisms are combined into an integral unit and wherein said integral unit together with said inlet/outlet and said outlet/inlet comprise an optical module (see Figure 6).

Regarding claim 3, Kunikane discloses wherein said inlet/outlet comprises a first signal transmission/receiving channel  $\lambda_1$ , and said outlet/inlet comprises a second signal transmission/receiving channel  $\lambda_2$  and a third signal transmission/receiving channel  $\lambda_3$ , each said signal transmission/receiving channel comprising an optical fiber having an end facing to a respective optical prism and a collimator/focusator (41, 42, 43, 44, 45, 46) on said end of said optical fiber, said collimator/focusator acting as an optical collimator for optical signals transmitted from each optical fiber to a respective optical prism and as an optical focusator transmitted from each optical prism to a

respective optical fiber, each said optical channel having an optical path for transmitting/receiving optical signals.

Regarding claims 8, 9, 11 and 12, whether a first-wavelength optical signal has a wavelength equal to about 1550 nm, said second-wavelength optical signal has a wavelength equal to about 1480 nm, and said second-wavelength optical signal has a wavelength equal to about 1310 nm or the first-wavelength optical signal has a wavelength equal to about 1550 nm, said second-wavelength optical signal has a wavelength equal to about 1310 nm, and said second-wavelength optical signal has a wavelength equal to about 780 nm is merely an engineering design choices.

3. Claims 4-7, 10, 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 14-17 are allowed.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Kanikane et al. U.S. Patent no. 5,005,935. Wavelength Division Multiplexing optical transmission system

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- b. Grann et al. U.S. Patent no. 6,212,312. Optical multiplexer/demultiplexer using resonant grating filters
- c. Hendrix U.S. Patent no. 6,008,920. Multiple channel multiplexer/demultiplexer devices

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye, can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran  
01/06/2006

  
DZUNG TRAN  
PRIMARY PATENT EXAMINER